PATENT COOPERATION TREATY

From the INTERNATIONAL BUREAU

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

To:

United States Patent and Trademark Office
(Box PCT)
Crystal Plaza 2
Washington, DC 20231
ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

Date of mailing: 15 April 1999 (15.04.99)	
International application No.: PCT/AU98/00767	Applicant's or agent's file reference:
International filing date: 17 September 1998 (17.09.98)	Priority date: 06 October 1997 (06.10.97)
Applicant: GAHAN, John, Peter	

1. The designated Office is hereby notified of its election made:

[X] in the demand filed with the International preliminary Examining Authority on:

17 September 1998 (17.09.98)

[ ] in a notice effecting later election filed with the International Bureau on:

2. The election [X] was

[ ] was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer:

J. Zahra

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PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference -	**FOR FURTHER ACTION**	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International application No. **PCT/AU 98/00767**	International filing date *(day/month/year)* 17 September 1998	Priority Date *(day/month/year)* 6 October 1997
International Patent Classification (IPC) or national classification and IPC **Int. Cl.**[6] F01B 13/00, 13/04, F02B 57/04		
Applicant GAHAN, John Peter		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of **3** sheets, including this cover sheet.

   [X] This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

   These annexes consist of a total of **4** sheet(s).

3. This report contains indications relating to the following items:

I	[X]	Basis of the report
II	[ ]	Priority
III	[ ]	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV	[ ]	Lack of unity of invention
V	[X]	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI	[ ]	Certain documents cited
VII	[ ]	Certain defects in the international application
VIII	[ ]	Certain observations on the international application

Date of submission of the demand 17 September 1998	Date of completion of the report 30 March 1999
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200 WODEN ACT 2606 AUSTRALIA Facsimile No. (02) 6285 3929	Authorized Officer **B. NGUYEN** Telephone No. (02) 6283 2306

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/AU 98/00767

I. Basis of the report

1. With regard to the **elements** of the international application:*

☐ the international application as originally filed.

☒ the description, pages **1, 3-17,** as originally filed,
pages , filed with the demand,
pages **2,** filed with the letter of **17 March 1999.**

☒ the claims, pages , as originally filed,
pages , as amended (together with any statement) under Article 19,
pages , filed with the demand,
pages **18, 19,** filed with the letter of **17 March 1999.**

☒ the drawings, pages **20, 21, 23-34,** as originally filed,
pages , filed with the demand,
pages **22,** filed with the letter of **11 February 1999.**

☐ the sequence listing part of the description:
pages , as originally filed
pages , filed with the demand
pages , filed with the letter of

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, was on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages

☐ the claims, Nos.

☐ the drawings, sheets/fig

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* *Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).*

** *Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report*

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	1-15	YES
	Claims		NO
Inventive step (IS)	Claims	1-15	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-15	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

1. None of the cited prior art documents in the international search report disclose the motor type as defined in claim 1 having indirectly geared feature and provision for automatically rotatable induction and/or transfer timing rings and pivoted air vents for automatically variable air flow. Hence claim 1 appears to satisfy the criterion set forth in Article 33 PCT.

2. Dependent claims 2 to 15 relate to additional details of the motor type of claim 1 and therefore inherit the novelty and inventiveness of this claim.

piston type including a cylinder block rotatably mounted within an engine housing, a crankshaft journalled for rotation within said engine housing, piston members rotatably supported on said crankshaft for rotary motion within said cylinder block as said crankshaft and said cylinder block rotate and a plurality of cylinders arranged to define chambers between said cylinders and said piston members that vary in volume, in sequence, in response to the relative movement between said piston members and said cylinders.

The engine housing is formed by peripheral spacers and opposed end casings, with the cylinder block supported on the crankcase for rotational movement and the crankcase supported on two main bearings, one on each of the respective end casings.

The piston may have a hollow tubular rod portion, sealed by a set screw in the piston crown, extending through a gas seal and an oil seal, to be attached to the crankshaft bearing. The crankshaft may be connected to the crankcase by epicyclic gears of a 2:1 ratio. Two complete revolutions of the crankshaft cause one complete revolution of the cylinder block.

By providing running clearance between the big-end of the connecting rod and the crankcase guides, torsional stress on the crankshaft is reduced.

Variable timing of the induction and/or transfer phases permits the engine to perform at its peak efficiency over a wide range of engine speeds.

The variable flow cooling system permits the engine to operate at its ideal temperature under extreme conditions.

The passing of pure air through the cylinder after combustion, returning unused fuel/air mixture to the inlet tract and closing the exhaust passage before the fresh fuel/air mixture enters the cylinder minimizes pollution of the atmosphere.

CLAIMS

1. A motor of the rotary piston type including a cylinder block rotatably mounted within an engine housing, a crankshaft journalled for rotation within said engine housing, piston members rotatably supported on said crankshaft for rotary motion within said cylinder block as said crankshaft and said cylinder block rotate, and a plurality of cylinders arranged to define chambers between said cylinders and said piston members that vary in volume, in sequence, in response to the relative movement between said piston members and said cylinders.

2. The motor of claim 1 wherein said cylinder block is rotatably geared to said crankshaft by epicyclic gears of ratio 2:1.

3. The motor of claim 2 wherein said epicyclic gears comprise two "piggy-back" idler gears.

4. The motor of claim 3 wherein timing of the entry of combustion gases into said chambers is controlled by side entry tracts located in the end casings for communication with ports in said cylinders.

5. The motor of claim 4 wherein said ports of said cylinders and said side entry tracts are sealed by intimate contact between rotating seal rings.

6. The motor of claim 5 wherein said chambers are open to atmosphere after combustion via air chokes and reed valves, allowing fresh cold air to pass across the crown of individual ones of said piston members, thereby purging said chambers of any residual exhaust gas.

7. The motor of claim 6 wherein the quantity of said cold air is synchronized by said air chokes to be proportional to the quantity of fuel/air mixture consumed by said motor.

8. The motor of claim 7 wherein the induction and/or transfer phases of said motor are automatically variable relative to the speed of said motor.

9. The motor of claim 8 wherein the cooling air flow is automatically variable to ensure that

the temperature of said motor remains within set limits during operation.

10. The motor of claim 9 wherein the sealing of the exhaust plate is accomplished by the pressure of the exhaust gas.

11. The motor of claim 10 wherein the movement of the big-end of the connecting rod is controlled by rigid guides in the crankcase.

12. The motor of claim 11 wherein individual ones of said piston members is cooled internally via air ports in the cylinder wall.

13. The motor of claim 12 wherein the primary compression of the induced gas is increased due to the solid base of said piston members meeting flush with said cylinder block.

14. The motor of claim 13 wherein any unused portion of the fuel/air mixture is returned to the incoming charge.

15. The motor of claim 14 wherein expansion of said motor upon reaching operating temperature does not affect the sealing of said motor due to the compressible synthetic rubber "O" ring seals and the slidably mounted seal rings.

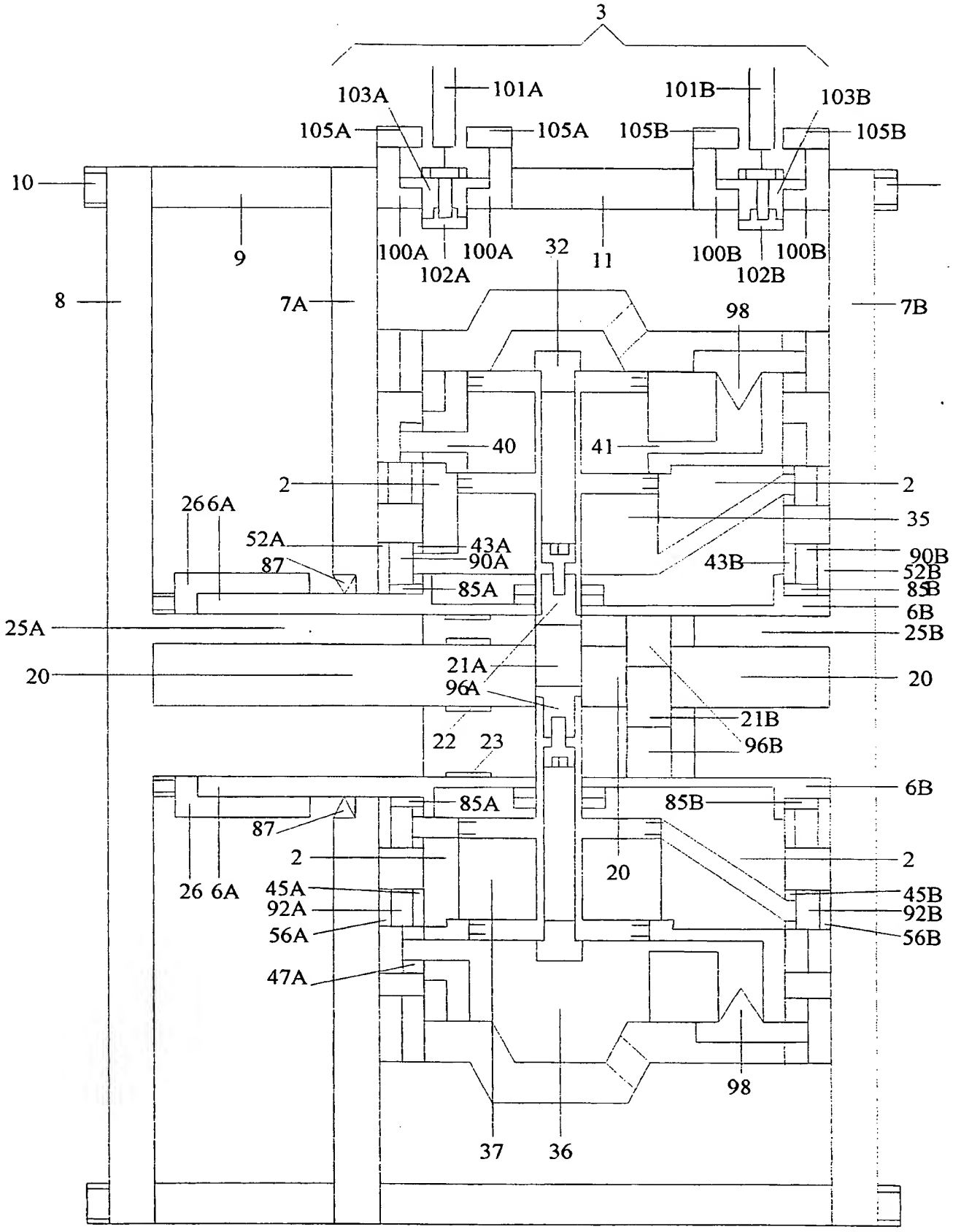
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Fig. 3